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ABSTRACT

An attempt was made to determine if high school seniors based their decision to pursue a college education upon cost-benefit considerations. The sample of 409 male and 319 female seniors attended 12 high schools in the greater Los Angeles area. A questionnaire asked the students to: indicate their plans after high school; report the importance of a specific educational program for entrance into their chosen vocation; rate the importance of future earnings in their decision to attend college; and indicate their perception of the income differentials between high school and college graduates. The results indicate a positive correlation between the perceived economic benefits of higher education and the decision to enroll in a college or university. The findings verify that students' perceptions of the economic benefits of higher education are positively correlated with college attendance plans, but they also demonstrate that economic considerations alone cannot account for college enrollment patterns. It is suggested that unless agreement can be reached among economists on appropriate methods to weigh the nonpecuniary and consumptive benefits of higher education, it will continue to be difficult to determine the role these factors play in the enrollment decision. (SW)

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COLLEGE ENROLLMENT: THE IMPACT OF PERCEIVED ECONOMIC BENEFITS

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The decision to attend college is being described by an increasing number of observers of higher education as an economic decision. Such an approach to the college enrollment decision assumes that the pecuniary benefits of higher education provide the primary inducements for students to continue their education. This study attempted to determine if traditional college matriculants, high school seniors, actually base their decision to pursue a college education upon cost-benefit considerations. A greater understanding of the factors that influence the college enrollment decision can be a valuable tool for decision makers at colleges and universities and for public policy makers.

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There has been a twelve-fold increase in the number of students attending institutions of higher education between 1900 and 1970 (Andersen, 1975). This is due not only to the large increase in the number of students graduating from high schools, but also to the growing recognition of the value of a college education. Since 1900, a college degree has become increasingly recognized as a means to upward mobility. Until recently, aggregate figures suggested that a college graduate earned almost 30% more over a lifetime than did a high school graduate. Thus, college appeared to be a good investment. However, a combination of more sophisticated methods of analysis and a possible oversupply of college graduates has resulted in considerably smaller estimates of the financial rate of return for current college students. Recent estimates of the rates of return range from 4 - 11% (Douglas, 1977; Juster, 1975; Perlman, 1973; Freeman, 1975; Taubman and Wales, 1973). This apparent decline has not gone unnoticed. The positive estimates of the

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economic benefits of college attendance have been criticized in scholarly works by Bert (1977), Bird (1975), Freeman (1976), Froomkin (1978), Hapgood (1971), and Hause (1969). In addition, articles questioning the value of a college degree have appeared in many newspapers and popular magazines. However, a persuasive case has been made for attending college on the basis of the non-economic benefits derived from continuing one's education. Astin (1977), Bowen (1977), Chickering (1974), Feldman and Newcomb (1973), and Trent and Medsker (1967) have tried to demonstrate that the cognitive and non-cognitive benefits that accrue to the individual make college a good investment.

Research into the college enrollment patterns of high school graduates has not been able to determine, as of yet, the roles which pecuniary and non-pecuniary benefits play in the college enrollment decision. This research project was an attempt to determine the importance of economic benefits among traditional college-age matriculants (high school seniors). The intent was to provide some insight into the importance of the pecuniary benefits of higher education vis-a-vis the non-pecuniary benefits. Based upon economic theories of college enrollment, the following hypothesis was examined: The perceived economic value of a college degree in a college or university.

In order to look at such a hypothesis, it is first necessary to review the factors that influence college enrollment. The college enrollment decision has been examined by researchers from several disciplines. Based on these studies, it appears that sociodemographic factors such as ability and socio-economic status, along with the economic demand for college graduates, the direct costs of attending college and the economic benefits of higher education are the primary factors affecting college enrollment. Utilizing these

economic or non-economic factors, various theories have been developed to predict and explain college attendance patterns. These theories tend to rely either exclusively on sociodemographic data or on economic and technological trends to explain college enrollment rates. Adkins (1975) has provided a useful framework for examining these theories. Theories which rely primarily on cultural, social, and demographic forces have been described as sociogenic theories. Those which depend upon technological and economic developments have been referred to as technogenic theories. (For a complete discussion of attendance theories, see Douglas L. Adkins: The Great American Degree Machine, 1975).

Sociogenic theories have tended to utilize factors such as the number of high school graduates, geographical accessibility of institutions of higher education, student ability, socioeconomic status, race, and sex. For the purposes of predicting college attendance, socioeconomic status (SES) and ability have proven to be the best predictors (Bishop, 1977; Kohn, Manski, Mundal, 1976; Miller, 1971; Trent, 1970). Historically, sex and race have also been good predictors. Over the past three decades, however, the emphasis on equal opportunity for women and minorities has greatly increased the participation rate in higher education for women and black Americans. In fact, the attendance rates for women now exceed those of white males (Chronicle of Higher Education, May 12, 1980, p.1). Technogenic theories or economic demand theories involve the use of technological changes and their affect on the labor force, on manpower, and on supply and demand cycles. Technogenic models posit that the increases and decreases in the percentage of high school students who enroll in higher education are the result of the interaction between supply and demand in the labor market. In this instance, demand refers to the need for college trained manpower which is influenced by technological advancements and economic productivity. The supply side of these models refers to college

graduates, the number of college educated people available to meet the demands of the labor market. Economic demand theories suggest that when the demand for college trained manpower exceeds the supply, employers are forced to offer larger economic incentives which then stimulates an increase in the supply of college educated workers. On the other hand, when the supply exceeds the demand, economic incentives are reduced which in turn results, over time, in a reduction of the supply side. Since this research focused upon the impact of perceived economic benefits upon the decision to attend college, this study relied on constructs derived from economic demand theories. The research tried to determine whether or not students are primarily economic beings who enroll in collegiate institutions because of enlightened economic self-interest. Thus, the study analyzed the extent to which the enrollment decision is based upon economic considerations.

METHOD

The Sample

For this research, institutions of higher education include universities, four-year colleges, and community colleges. A sample of 728 high school seniors was gathered from a group of 12 high schools in the greater Los Angeles area. As a result of the Family Rights & Privacy Act of 1974 and other recent developments, social science researchers have encountered a growing resistance to full co-operation with reseachers gathering data in the public schools. This resistance procluded the development of a random sample. Thus, cluster sampling was used to allow for maximum efficiency in obtaining a sample. The respondent cohort was sufficiently large to produce adequate cell size when controlling on the dimensions of sex, race, ability, and socioeconomic status. The socioeconomic status (SES) index for the sample was derived by combining the father's level

of education and annual income. Education and income were equally weighed and the final index was produced by breaking down SES into low, medium, and high levels.

The final sample was comprised of 409 (56.2%) men and 319 (43.8%) women. A comparative analysis of the racial make-up of the sample and the distribution of these racial groups in the actual population of the Los Angeles metropolitan area reveals some differences.

Racial Group	Sample	[1] L.A. Metropolitan Area
White	55.9% (407)	68.0%
Black	25.9% (189)	10.9%
Mexican-American	12.0% (87)	17.5%
Other	6.2% (45)	3.7%

[1] The Regional Planning Commission of the County of Los Angeles Quarterly Bulletin, No. 116, April 1972.

A similar comparison of the socioeconomic make-up of the sample and of the income distribution found in the U. S. population also indicates some variance in the sample.

SES Status	Sample	[2] National
Low	11.6% (84)	33.7%
Medium	55.6% (405)	51.0%
High	32.8% (239)	15.3%

[2] A Fact Book on Higher Education, 1977, p. 75, 38.

It is possible to estimate some of the biases for the samples. These comparisons show that the sample contains a higher proportion of black and high SES respondents than would be anticipated based on normative data. Low SES and white students also appear to be under-represented in the sample. Nevertheless, the

sample was a reasonably good cross-section of students and it permitted comparisons among different sub-samples (for instance, high SES white students with high SES black students) which yielded important information. By focusing upon the responses of the sub-group within the sample, it is possible to generalize the results to similar groups in other regions of the country. Only with regards to planned attendance might the responses be expected to differ from those of students from other metropolitan areas of the country. As a result of the well-developed and geographically accessible community college system in Los Angeles, a large percentage of low income and marginal students may have planned to attend a college. This may limit the generalizability of the results for these students. On the other hand, comparisons of middle and high income students from other metropolitan areas would be less likely to vary significantly. Since the sample lacked participation from students residing in small towns or rural areas, the results cannot be extrapolated to these with any confidence. The results section will focus on those areas for which generalizability is likely to be most valid.

The Questionnaire

The instrument used to gather the information was developed and tested by the author. It was field tested for face validity at local high schools. The questionnaire consisted almost exclusively of closed-ended response items. The instrument was administered solely by the author at all but two of the participating schools. This procedure maximized the consistency of the administration of the questionnaire and reduced the likelihood of the students recording information inaccurately. The questions asked the students to:

1. Indicate their plans after high school.
2. Report the importance of a specific educational program in order for them to enter their chosen vocation.
3. Rate the importance of future earnings in their decision to attend college.

4. Indicate their perception of the income differentials between high school and college graduates.

The Analysis

Almost all of the data consisted of nominal and ordinal levels of measurement. Therefore non-parametric techniques of analysis were used. Sex, race, SES, student GPA (ability), and college attendance plans were treated as independent variables. The analysis was performed using programs available in the Statistical Package for the Social Sciences (Klie, et al, 1975).

RESULTS

A systematic analysis of the frequency distribution revealed some significant relationships and a wealth of descriptive information. The exact breakdown of attendance plans was:

planning to enroll	- 76.5%	(554)
undecided	- 10.0%	(74)
not planning to enroll	- 13.3%	(96)

The percentage of students planning to enroll exceeded the actual attendance rate in the metropolitan area by 14% - 76.5% versus 62% (City of Los Angeles Board of Education, Research & Development, 1976). It also exceeded the national attendance rate of 51% (School Enrollment - Social & Economic Characteristics of Students: October, 1976, p.2). The large percentage of would-be attenders probably resulted from measuring intended plans rather than actual behavior. George Weathersby recently noted that 14.2% of those who applied to college and were accepted never actually enrolled (Weathersby, 1977, p.8).

Overall, the student responses to the questions appear to support the hypothesis. Nearly 80% of all would-be attenders believed that a college degree leads to higher income. When these results were considered along with the

first table, the support appears to be even stronger. Table 1 reveals that there was a highly significant relationship (P /0001) between potential attendance and the importance of a good paying job.

Table 1 about here

Almost 40% of all would-be attenders indicated they might not enroll in college if they could not get a good paying job. In addition, only 25% of all students undecided about college responded that they would go to college if they could not get a good job. In addition, 97% of the respondents planning to attend college believed that people who attend earn more money (Table 2).

Table 2 about here

The results in Tables 1 and 2 support the hypothesis that perceptions of economic benefits are positively correlated with college enrollment.

Along with the findings discussed in Tables 1 and 2, the responses to several other questions also suggest that students who expect greater economic benefits from going to college are more likely to enroll. When compared with students who were undecided or did not plan to attend, over 20% more of the would-be attenders estimated that the annual difference in salary between high school and college graduates exceeded $10,000.

Table 3 also demonstrates that would-be attenders estimated large differences in salary over one's lifetime.

TABLE 1

Attendance By College Enrollment

Without the Benefit of a Good Paying Job

(Percentages)

		Would Attend		
		Yes	Undecided	No
"Would go to college without the likelihood of a good paying job"	Yes	60.9	25.0	27.7
	Undec.	20.4	31.9	21.3
	No	18.7	43.1	51.1
		100.0	100.0	100.0
Column %		76.8	10.1	13.1

TABLE 2

Attendance by College Graduates Earn More Money

(Percentages)

		Would Attend		
		Yes	Undecided	No
[3] Relative estimated income as the result of college attendance	(a) more	97.2 ( )	89.4 ( )	83.5 ( )
	(b) less	2.8 ( )	10.6 ( )	16.5 ( )
		100.0	100.0	100.0
Column %		77.2	13.2	9.6

[3] Actual question read: If you go to college you will earn (a) more or (b) less money.

TABLE 3

Attendance by Estimated Lifetime Income of

High School and College Graduates

(Percentages)

		Would Attend		
		Yes	Undec.	No.
The estimated difference between college and high school graduates' lifetime income	$ 50,000 or less	20.0	31.4	43.3
	$ 50,001-100,000	54.7	41.8	44.4
	$100,001 or more	25.3	26.8	12.3
		100.0	100.0	100.0
Column %		77.1	9.8	13.1

Table 3 about here

Thus far, the results appear to support the hypothesis that perceived economic benefits are closely associated with plans to attend college. A re-examination of Table 1, however, reveals that pecuniary benefits alone are not the only motivation to attend college. In spite of the fact that there was a significant relationship between attendance and the desire for a good paying job, Table 1 also shows that nearly 61% of those planning to enroll would enroll even if they knew they could not get a good paying job. For nearly two-thirds of all would-be attenders, a good job is not a primary factor in their enrollment decision.

In addition to the results in Table 1, the student responses in the following table (Table 4) also suggest that economic considerations are not the only factors that influence college attendance plans. Although there are no significant relationships in Table 4, a higher income is at best no more important to those planning to enroll than it is to undecided students or those not planning to enroll.

Table 4 about here

TABLE 4

Attendance by Income as a Reason For Going to College

		Would Attend		
		Yes	Undec.	No
"Higher income as a reason for going to college"	Important	86.0	93.0	87.0
	Unimportant	14.0	7.0	13.0
		100.0	100.0	100.0
Column %		77.1	10.0	12.9

Therefore, although there is considerable evidence that supports the hypotheses, the results also reveal that pecuniary benefits by themselves are insufficient to completely explain student attitudes in the college enrollment decision. While the results of Tables 1 through 3 seem at first, to support the hypothesis, further evidence establishes the fact that pecuniary benefits alone are not the only motivation for attending a college or university.

In order to completely examine student attitudes toward pecuniary benefits, it was also necessary to determine the affects of SES, ability, sex, and race upon student perceptions. Each of these factors were treated as both independent and control variables. This made it possible to determine the extent to which each variable influenced perceptions of pecuniary benefits and the enrollment decision. These results will be reviewed briefly.

SES:

The use of socioeconomic status as a control variable did not alter the basic relationship between perceived economic benefits and plans to attend a college or university. Among students at all SES levels, would-be attenders were more likely to anticipate greater pecuniary benefits by continuing their education. However, some interesting differences were found among the three socioeconomic groupings. High SES attenders were more likely to say that they would go to college without the benefit of a good paying job (high SES - 64% vs. low SES - 54.8%). They also placed less importance on a better income as a reason for going to college (79.8% vs. 90.7%). Thus they appear to be less motivated by economic returns.

However, high SES students were also more likely to estimate higher annual differences between the salaries of high school and college graduates. Only a little more than 45% of the low SES attenders estimated that the differences

would exceed $3,000 or more. Similarly, high SES students also estimated higher lifetime returns than did low SES students. These results suggest that high SES students appear to be less motivated by economic considerations when they decide to go to college, but that they expect greater economic returns. While there is no clear explanation for this apparent contradiction, it may be that high SES students are less concerned about economic benefits when they attend college (perhaps because they take economic benefits for granted); on the other hand, when asked to estimate earnings, they reflect upon their parents' income and use this as their base for projections.

Ability:

Controls for the student's level of ability appeared to make very little difference in the college enrollment decision. There were no significant differences between those planning to enroll and those not planning to enroll. However, in one instance, there was some evidence that ability did directly influence the students' decision to enroll. High ability students were significantly more likely ($p < .001$) than middle or low ability students to indicate that they would go to college without the likelihood of a good paying job (71.1% - 50.9% - 43.6%).

Race and Sex

Neither race nor sex appeared to have any impact on the students' attitudes towards pecuniary benefits. However, there was some indication that minority students were more motivated to enroll because of salary inducements than were white students. Black and Hispanic students were significantly more likely than their white cohorts ($p < .001$) to respond that a "better salary is an important reason for going to college" (92.1% vs. 81.8%). This however, was the only significant difference among the racial groups.

CONCLUSIONS

Based upon the results, there is a positive correlation between the perceived economic benefits of higher education and the decision to enroll in a college or university. Generally, those respondents planning to continue their education anticipated better paying jobs and better lifetime incomes as the result of pursuing a college degree. Some of the results are contradictory, however, and raise important questions regarding the role pecuniary benefits actually play in the enrollment decision. While it is true that students planning to enroll in college tended to expect higher incomes and see that as an important benefit of attendance, a large group of would-be attenders (almost 61%) responded that they would enroll even without the likelihood of a good paying job. Further complicating the results, more non-attenders than would-be attenders saw a higher income as a reason for going to college. Although the results appear to support the hypotheses, they also point to the complexity of the college enrollment decision and suggest that there may be other factors in the decision to pursue a college degree which are as important or even more important. The results indicate that economic motivation theories alone do not sufficiently explain college enrollment patterns.

These somewhat contradictory results may mean that sociogenic, as well as technogenic factors, influence college enrollments. Adkins (1975), however, has offered another view of the rate of return that may also explain these results. Adkins has suggested that the rate of return is greatly underestimated. He states that the importance of direct costs and foregone income are overestimated and that insufficient value is placed upon the consumptive and non-pecuniary benefits of attendance (such as the social and cultural life enjoyed while in college, the status of being college educated, greater job satisfaction, and better health). Rather than a 4-11% rate of return, he

estimates that the rate of return may actually be 40-50% (Adkins, 1975, p.176). If consumption and non-pecuniary benefits are underestimated, this could explain why large numbers of students continue to enroll in colleges or universities. It is also possible that students believe that despite the declining value of a college degree that they are still more likely to be successful in terms of employability, advancement, mobility, and income than students who elect not to go to college.

This study cannot answer the questions regarding what factors, in addition to perceptions of pecuniary benefits, influence the enrollment decision. Nonetheless, the results verify that students' perceptions of the economic benefits of higher education are positively correlated with college attendance plans. The results also demonstrate that economic considerations alone cannot account for college enrollment patterns. Unless agreement can be reached among economists on appropriate methods to weigh the non-pecuniary and consumptive benefits of higher education, it will continue to be difficult to determine the role these factors play in the enrollment decision. Future attempts to study the college enrollment decision should focus on a multi-dimensional enrollment theory. In this manner, the relative importance of various enrollment factors can be more clearly understood.

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